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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/635,796	08/06/2003	James B. O'Dwyer	1873A1	2706

7590 06/22/2009

PPG INDUSTRIES, INC
Intellectual Property Department
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EXAMINER	
CHEUNG, WILLIAM K	
ART UNIT	PAPER NUMBER
1796	

MAIL DATE	DELIVERY MODE
06/22/2009	PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary	Application No.	Applicant(s)	
	10/635,796	O'DWYER ET AL.	
	Examiner	Art Unit	
	WILLIAM K. CHEUNG	1796	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE *3* MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *3/19/2009*.

2a)☒ This action is **FINAL**. 2b)☐ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *1,5-23,26-31,40,43-52,55-57 and 70* is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *1,5-23,26-31,40,43-52,55-57 and 70* is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☐ The drawing(s) filed on _____ is/are: a)☐ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☐ All b)☐ Some * c)☐ None of:

1.☐ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☐ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☐ Information Disclosure Statement(s) (PTO/SB/08) Paper No(s)/Mail Date _____.
4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____ .
5) ☐ Notice of Informal Patent Application
6) ☐ Other: _____.

DETAILED ACTION

1. In view of the amendment filed March 19, 2009, claims 2-4, 24, 25, 32-39, 41, 42, 53, 54, 58-69 have been cancelled, and new claim 70 has been added. Claims 1, 5-23, 26-31, 40, 43-52, 55-57, 70 are pending.

2. In view of applicants' argument, the 102 rejection portion of Claims 1, 5-23, 26-31, 40, 43-52, 55-57, 70 of the 102-3 rejection set forth in the office action of December 11, 2008 has been withdrawn. The 102 heading was a typographical error, and the typographical error did not affect the validity of the 103 rejection set forth on December 11, 2008.

Claim Objections

3. Claim 30 is objected because it is identical to claim 1 being claimed.

Double Patenting

4. The nonstatutory double patenting rejection is based on a judicially created doctrine grounded in public policy (a policy reflected in the statute) so as to prevent the unjustified or improper timewise extension of the "right to exclude" granted by a patent and to prevent possible harassment by multiple assignees. A nonstatutory obviousness-type double patenting rejection is appropriate where the conflicting claims are not identical, but at least one examined application claim is not patentably distinct from the reference claim(s) because the examined application claim is either anticipated by, or would have been obvious over, the reference claim(s). See, e.g., *In re Berg*, 140 F.3d 1428, 46 USPQ2d 1226 (Fed. Cir. 1998); *In re Goodman*, 11 F.3d 1046, 29 USPQ2d 2010 (Fed. Cir. 1993); *In re Longi*, 759 F.2d 887, 225 USPQ 645 (Fed. Cir. 1985); *In re Van Ornum*, 686 F.2d 937, 214 USPQ 761 (CCPA 1982); *In re Vogel*, 422

F.2d 438, 164 USPQ 619 (CCPA 1970); and *In re Thorington*, 418 F.2d 528, 163 USPQ 644 (CCPA 1969).

A timely filed terminal disclaimer in compliance with 37 CFR 1.321(c) or 1.321(d) may be used to overcome an actual or provisional rejection based on a nonstatutory double patenting ground provided the conflicting application or patent either is shown to be commonly owned with this application, or claims an invention made as a result of activities undertaken within the scope of a joint research agreement.

Effective January 1, 1994, a registered attorney or agent of record may sign a terminal disclaimer. A terminal disclaimer signed by the assignee must fully comply with 37 CFR 3.73(b).

5. Claims 1, 5-23, 26-31, 40, 43-52, 55-57, 70 are rejected on the ground of nonstatutory obviousness-type double patenting as being unpatentable over claims 1-16 of U.S. Patent No. 5,922,475 in view of Anderson et al. (US 6,306,965), for the reasons adequately set forth from paragraph 4 of the office action of December 11, 2008.

1. (Previously presented) A reaction product of reactants, wherein the reactants comprise:

a) at least one copolymer comprising at least 30 mol % of residues having the following alternating structural units:

-[DM-AM]-

wherein DM represents a residue from a donor monomer, AM represents a residue from an acceptor monomer, at least 15 mol % of the copolymer comprising a donor monomer chosen from isobutylene, diisobutylene, dipentene, isoprenol, or combinations thereof at least 15 mol % of the copolymer comprising an acrylic monomer as an acceptor monomer; the copolymer containing pendant carbamate groups or groups that can be converted to carbamate groups;

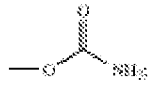
b) at least one aldehyde; and

c) at least one monohydric alcohol;

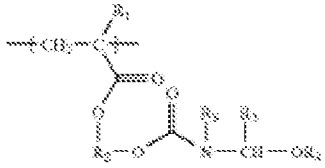
wherein when the copolymer (a) contains groups that can be converted to carbamate groups, the reactants further comprise:

d) at least one material that will convert said groups into carbamate groups.

1. A curable film-forming composition comprising (i) a polyester polymer or oligomer containing a plurality of carbamate groups of the structure:



(ii) an acrylic copolymer containing a plurality of groups of the structure:



wherein R_1 is hydrogen or methyl, R_2 is a divalent linking group having about 1 to about 30 carbon atoms, R_3 is hydrogen or a lower alkyl group having about 1 to about 10 carbon atoms, and R_4 is a lower alkyl group having about 1 to about 6 carbon atoms, R_5 is hydrogen or

where R_3 and R_4 are as defined above; and

(iii) an aminoplast crosslinking agent different from (ii) containing methylol groups, methylol ether groups, or mixtures thereof.

The difference between the invention of claims 1, 5-23, 26-31, 40, 43-52, 55-57, 70 and Barancyk et al. is that Barancyk et al. do not indicate a composition comprising a donor monomer selected from isobutylene, diisobutylene, dipentene, and isoprenol.

However, Anderson et al. (col. 1, line 12-22) disclose a coating composition comprising carbamate functional polymers. Anderson et al. (col. 25, claim 8) clearly claim a composition comprising olefins. Further, Anderson et al. (col. 6, line 30-35) explicitly teach that the claimed olefins can include isobutylene and diisobutylene. Therefore, in view of substantially identical endeavor of developing a carbamate containing coating composition, and motivated by the expectation of success of developing a coating composition with a combination of good exterior durability, acid etch and water spot resistance, and excellent gloss and appearance (col. 1, line 39-43), it would have been obvious to one of ordinary skill in art to incorporate the isobutylene

and diisobutylene of Anderson et al. into Barancyk et al. to obtain the invention of claims 1, 5-23, 26-31, 40, 43-52, 55-57, 70.

Further, in view of the substantially identical monomers and comonomer composition as taught in Barancyk et al. and Anderson et al, and as claimed, the examiner has a reasonable basis that the claimed polydispersity properties is inherently possessed in Barancyk et al. and Anderson et al. Since the PTO does not have proper means to conduct experiments, the burden of proof is now shifted to applicants to show otherwise. In re Best, 562 F.2d 1252, 195 USPQ 430 (CCPA 1977); In re Fitzgerald, 205 USPQ 594 (CCPA 1980).

Applicant's arguments filed March 19, 2009 have been fully considered but they are not persuasive. Applicants argue that Anderson et al. and Barancyk et al. relate to polymers prepared by standard radical polymerization techniques which will result in a copolymer having carbamate functional groups that are randomly located along the polymer chain. Because Anderson et al. disclose the benefits of ATRP over the standard polymerization, applicants hold the position that the Anderson et al. are considered a teach-away reference for standard radical polymerization. However, the examiner disagrees. Applicants must recognize that a reference is considered a teach away reference if Anderson et al. explicitly discourage one from using a standard radical polymerization technique. Without such explicit discouragement teachings, the standard free radical polymerization technique is considered a non-preferable teaching. Further, applicants must recognize that applicants' claims as written do not set any requirement

on the type of polymerization to be excluded or included in the claimed invention.

Therefore, applicants' argument is not supported by the claims as written.

Claim Rejections - 35 USC § 103

6. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

The factual inquiries set forth in *Graham* **v.** *John Deere Co.*, 383 U.S. 1, 148 USPQ 459 (1966), that are applied for establishing a background for determining obviousness under 35 U.S.C. 103(a) are summarized as follows:

1. Determining the scope and contents of the prior art.
2. Ascertaining the differences between the prior art and the claims at issue.
3. Resolving the level of ordinary skill in the pertinent art.
4. Considering objective evidence present in the application indicating obviousness or nonobviousness.

7. Claims 1, 5-23, 26-31, 40, 43-52, 55-57, 70 are rejected under 35 U.S.C. 103(a) as obvious over Barancyk et al. (US 5,922,475), in view of Anderson et al. (US 6,306,965) for the reasons adequately set forth from paragraph 6 of the office action of December 11, 2008.

1. (Previously presented) A reaction product of reactants, wherein the reactants comprise:

a) at least one copolymer comprising at least 30 mol % of residues having the following alternating structural units:

-[DM-AM]-

wherein DM represents a residue from a donor monomer, AM represents a residue from an acceptor monomer, at least 15 mol % of the copolymer comprising a donor monomer chosen from isobutylene, diisobutylene, dipentene, isoprenol, or combinations thereof at least 15 mol % of the copolymer comprising an acrylic monomer as an acceptor monomer; the copolymer containing pendant carbamate groups or groups that can be converted to carbamate groups;

b) at least one aldehyde; and

c) at least one monohydric alcohol;

wherein when the copolymer (a) contains groups that can be converted to carbamate groups, the reactants further comprise:

d) at least one material that will convert said groups into carbamate groups.

40. (Currently Amended) A copolymer comprising at least 30 mol % of residues having the following alternating structural units:

-[DM-AM]-

wherein DM represents a residue from a donor monomer, AM represents a residue from an acceptor monomer, at least 15 mol % of the copolymer comprising a donor monomer chosen from isobutylene, diisobutylene, dipentene isoprenol, or combinations thereof, at least 15 mol % of the copolymer comprising an acrylic monomer as an acceptor monomer; the copolymer containing pendant groups of the structure:

$-OC(O)N(R'')CH_2OR'$

where R' is alkyl containing one to eight carbon atoms and R" is selected from H, CH_2OR', linear, cyclic or branched C_1 to C_{20} alkyl, alkenyl, C_6 to C_{20} aryl, alkaryl and aralkyl.

70. (New) A reaction product of reactants, wherein the reactants comprise:

a) at least one copolymer comprising at least 30 mol % of residues having the following alternating structural units:

- [DM-AM] -

wherein DM represents a residue from a donor monomer, AM represents a residue from an acceptor monomer, at least 15 mol % of the copolymer comprising a donor monomer chosen from isobutylene, diisobutylene, dipentene, isoprenol, or combinations thereof, at least 15 mol % of the copolymer comprising an acrylic monomer as an acceptor monomer, and wherein the donor monomer is in molar excess to the acceptor monomer;

the copolymer containing pendant carbamate groups or groups that can be converted to carbamate groups;

b) at least one aldehyde; and

c) at least one monohydric alcohol;

wherein when the copolymer (a) contains groups that can be converted to carbamate groups, the reactants further comprise:

d) at least one material that will convert said groups into carbamate groups.

Barancyk et al. (abstract) disclose a curable composition comprising a polyester polymer or oligomer containing plurality of carbamate groups, an alkylolated and optionally etherified carbamate functional acrylic polymer, and an aminoplast crosslinking agent. Further, Barancyk et al. (col. 6, line 16-45; col. 11, line 7-33) disclose a list of comonomers, which comprises the donor and acceptor monomers as claimed. Barancyk et al. (col. 5, line 28-43) disclose the incorporation of polyisocyanates into the disclosed composition.

Regarding the claimed “at least 15 mol%” of the donor or the acceptor monomer in the claimed composition, Barancyk et al. (col. 11-14, the table of examples) clearly indicate such embodiment in the table.

Regarding the claimed "aldehyde" and "alcohol" components, Barancyk et al. (col. 5, line 18-24; col. 12, line 10-24) clearly teach the incorporation of aldehyde and alcohol into the disclosed composition.

Regarding the claimed molecular weight properties, Barancyk et al. (col. 7, line 17-30) clearly teach a molecular weight range that significantly overlaps with the molecular weight range being claimed.

Since the composition of Barancyk et al. do not disclose the need for maleate monomer segments and fumarate monomer segments, the examiner has a reasonable basis to believe that the composition of Barancyk et al. encompasses compositions that are free of maleate monomer segments and fumarate monomer segments.

Regarding the claimed structure of the function group of claim 40, Barancyk et al. (col. 4, line 24-32; col. 5, line 1-10) clearly disclose the claimed structure.

Regarding the claimed "alternating" structural properties, because the "alternating" nature of the comonomers depends on their Alfrey-Price e values of the comonomers, in view of the substantially identical monomers disclosed in Barancyk et al. and the monomers as claimed, and in view that the polymerization process of Barancyk et al. (col. 6, line 46-65) and as claimed are both drawn to the preparation of the copolymers with organic peroxides, the examiner has a reasonable basis that the claimed "alternating" feature, is inherently possessed in Barancyk et al.

The difference between the invention of claims 1, 5-23, 26-31, 40, 43-52, 55-57, 70 and Barancyk et al. is that Barancyk et al. do not indicate a composition comprising a donor monomer selected from isobutylene, diisobutylene, dipentene, and isoprenol.

However, Anderson et al. (col. 1, line 12-22) disclose a coating composition comprising carbamate functional polymers. Anderson et al. (col. 25, claim 8) clearly claim a composition comprising olefins. Further, Anderson et al. (col. 6, line 30-35) explicitly teach that the claimed olefins can include isobutylene and diisobutylene. Therefore, in view of substantially identical endeavor of developing a carbamate containing coating composition, and motivated by the expectation of success of developing a coating composition with a combination of good exterior durability, acid etch and water spot resistance, and excellent gloss and appearance (col. 1, line 39-43), it would have been obvious to one of ordinary skill in art to incorporate the isobutylene and diisobutylene of Anderson et al. into Barancyk et al. to obtain the invention of claims 1, 5-23, 26-31, 40, 43-52, 55-57, 70.

Further, in view of the substantially identical monomers and comonomer composition as taught in Barancyk et al. and Anderson et al, and as claimed, the examiner has a reasonable basis that the claimed polydispersity properties is inherently possessed in Barancyk et al. and Anderson et al. Since the PTO does not have proper means to conduct experiments, the burden of proof is now shifted to applicants to show otherwise. In re Best, 562 F.2d 1252, 195 USPQ 430 (CCPA 1977); In re Fitzgerald, 205 USPQ 594 (CCPA 1980).

Applicant's arguments filed March 19, 2009 have been fully considered but they are not persuasive. Applicants argue that there is no motivation to incorporate the teachings of Barancyk et al. into the invention of instant application because Barancyk et al. have already disclosed a coating composition that meets or exceeds convention

expectations. However, applicants fail to recognize that such argument does not support that Barancyk et al. is a teach-away reference. Therefore, in view of substantially identical endeavor of developing a carbamate containing coating composition of Barancyk et al. and Anderson et al., it would have been obvious to one of ordinary skill in art to incorporate the isobutylene and diisobutylene of Anderson et al. into Barancyk et al. to obtain the invention of claims 1, 5-23, 26-31, 40, 43-52, 55-57, 70.

Applicants also acknowledge that Anderson et al. and Barancyk et al. relate to polymers prepared by standard radical polymerization techniques which will result in a copolymer having carbamate functional groups that are randomly located along the polymer chain. However, because Anderson et al. disclose the benefits of ATRP over the standard polymerization, applicants believe that the reference to Anderson et al. is considered a teach-away reference for a standard radical polymerization. However, the examiner disagrees. Applicants must recognize that a reference is considered a teach-away reference if Anderson et al. explicitly discourage one from using a standard radical polymerization technique. Without such explicit discouragement teachings, the standard free radical polymerization technique is considered a non-preferable teaching, which is also teachings that can be exploited by one skilled in art after reading the disclosure. Further, applicants must recognize that the claims of instant application as written do not set any requirement on the type of polymerization to be excluded or included in the claimed invention. Therefore, applicants' argument is not supported by the claims as written.

Conclusion

8. THIS ACTION IS MADE FINAL. Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the date of this final action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to William K. Cheung whose telephone number is (571) 272-1097. The examiner can normally be reached on Monday-Friday 9:00AM to 2:00PM; 4:00PM to 8:00PM.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, David WU can be reached on (571) 272-1114. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

/William K Cheung/
Primary Examiner, Art Unit 1796

William K. Cheung, Ph. D.
Primary Examiner
June 12, 2009